Abstract

The invention relates to a device for performing and verifying therapeutic radiation. An x-ray beam (4) is arranged across from a target volume (3) of the beam source (11) for the high-energy beam (1) in such a way that the beams (1, 4) run in essentially opposite directions (5, 6). The invention also relates to a computer program and a control method for operating said device. The inventive device makes it possible to exactly verify areas (16, 16', 16") that are subjected to different levels of radiation, the entire anatomy of the target volume (3), and the surroundings thereof in addition to the contour of the therapy beam (1). The x-ray beam (4) detects the anatomy and position of the patient (21) within the range of the target volume (3) before the high-energy beam (1) is applied and the shape of the applied high-energy beam (1) is then detected and areas (16, 16', 16") that are subjected to different levels of radiation as well as at least one partial segment of the target volume (3) during the emission breaks of the high-energy beam (1). The detected data is used for correcting the treatment plan.